Precalculus

Notes 3.1

Definition of Exponential Function: where and .

Ex. 1: Evaluate each function at the indicated value of x.

Graph of Exponential Functions:

Ex. 2: Use a table and graph.



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Ex. 3: Use a table and graph:

a.

b.

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Transformations of Graphs of Exponential Functions:

Ex. 4: Graph the following and describe the shift:

1. :
2. Natural Base

Type into your calculator to get a numerical approximation: (an irrational number).

The function is called the natural exponential function. Graph on your calculator.

Ex. 5: Evaluate the function at each indicated value of

Ex. 6: Graph each natural exponential function.

1. b.

Applications:

Formulas for Compound Interest:

1. For compoundings per year:
2. For continuous compoundings:

Ex. 7: A total of $12,000 is invested at an annual interest rate of 9%. Find the balance after 5 years if it is compounded:

1. quarterly.
2. monthly.
3. continuously.